



Unit 7 Sustainability and circular economy

Lecture 7.1 Global Sustainability initiatives and the footprint of T& C Industry

D 2.1 Training toolkit and e-book

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Case studies / best practices in design and production

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Lecture 7.1 Global Sustainability initiatives and the footprint of T& C Industry

What is this course about ?

- The footprint of Textile & Clothing is problematic
 - Textile and Clothing has become the second largest polluter in the world
 - over consumption and its associated waste pollution make things worse year after year
 - Sometimes unacceptable social conditions of production are hidden by the complexity and opacity of its supply chains
- For the Tunisian industry to face this problematic could be an opportunity or even a question of survival
- This course starts with an introduction of the sustainability issues in Textile & Clothing (recent evolution, footprint , challenges for Tunisia, issues to face) and the first answers to the problem (new business models, regulations & certifications)
- A specific Chapter develops what Sustainable Fashion is, illustrated by inspiring cases and initiatives
- Another Chapter develops what Circular Fashion is, illustrated by inspiring cases and initiatives

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Sustainability & T&C: Footprint – Evolution - Tunisia challenges – Issues to face

The footprint of T&C Industry

Second-largest polluter in the world

- more than 8% of the world's greenhouse gas emissions
- approximately 30% of the microplastics that end up in the rivers and oceans each year
- Energy & water intensive sector

Negative impact on social issues

- complexity and opacity of its supply chains (child labor, unsafe working conditions, and modern slavery)

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Sustainability & T&C: Footprint – Evolution - Tunisia challenges – Issues to face

Sustainability: alarming evolutions

- -The traditional 2 seasons Spring-Summer and Fall-Winter launches have been morphed into 52 micro-collections per year.
- - ‘fast fashion’ strategy, where shorter lead times and larger collections bring a pattern of over-consumption and a craving for newness.
- - Shop ‘till you drop’ phenomenon has become a common reality, with consumption levels rising year on year and doubling the last 15 years.

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Sustainability & T&C: Footprint – Evolution - Tunisia challenges – Issues to face

What is at stake for the Tunisian T&C?

- **...become sustainable is a question of competitiveness and will help to consolidate its position**
 - Tunisia is among the top 15 garment suppliers in the world and has the advantage of being close to the European market.
 - As the fifth-largest supplier to the European Union, as well as the leading trouser supplier to the EU.
 - As an industry with a confirmed know-how and short and respected deadlines.
- **...become sustainable is an opportunity to valorise some existing assets**
 - Geographical proximity to Europe facilitating the just-in-time
 - Good quality level consistent with the requirements of contractors;
 - Skilled human resources and confirmed know-how ;
 - Compliance with social and environmental standards (on going process)
- **...become sustainable is a question of survival**
 - Clothing & textile industry is export-oriented and the consumers and retailers in most of its exporting market are more and more concerned by sustainability compliance

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Sustainability & T&C: Footprint – Evolution - Tunisia challenges – Issues to face

Issues to face

- Environmental issues
 - water use, & water quality,
 - energy choices greenhouse gas emissions,
 - microfiber pollution, chemical use, toxicity
 - waste management, raw materials selection
 - Life cycle Management (LCA) and circular business models implementation
- Social issues
 - Safety & health issues, Fair wages, Human rights , Working conditions, Training
 - The textile & clothing industry has a notoriously bad reputation in terms of labor conditions and human rights of its supply chain workers. (since notably the Rana Plaza tragedy in 24 April in 2013). Low-wages and alarmingly high working hours of factory workers, poor health & safety conditions, and forced / child labor are some of the high priorities in need of improvement, transparency, and need of tracking in the industry.
- Ethical & transparency issues

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Facing sustainability: Business Models, Regulations & Certifications

Business Models for Sustainability: Radical... but still marginal answers

- Local Production
 - Minimize the carbon footprint! Garment transport puts out a huge amount of CO₂, which can be reduced by minimizing the distances during production.
- Minimalism
 - Having as little as possible = less consumption.
- Clothing Swap
 - One of the most sustainable solution is the clothing swap because you are not only giving the pieces you get a new life, but also the ones you give away = double the save from landfill.
- Second Hand (Old is New)
 - Another super sustainable solution because the pieces already exist, so you are saving the entire negative impact of production.

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Facing sustainability: Business Models, Regulations & Certifications

Regulations & Certifications

- Regulation and industry certifications play a large influence in streamlining best practices and create alignment to move in the right direction.
 - Bluesign and GOTS (global organic textile standard) are examples of pillar certifications in the industry, focusing on consumer safety, water, air emission, and organic practices.
 - VEGAN is another environmentally friendly certification because it reduces the negative environmental impact caused by animals. Preventing animals from dying or suffering for clothes. But some brands will use plastic or other non biodegradable fibers as a replacement to animal based products. Unfortunately, these materials often end up in landfills after a short amount of time.



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Sustainable Fashion – Inspiring Cases and Initiatives

Sustainable Fashion

- Sustainable Fashion - Sustainability Development Goals – Fashion Pact and standards
 - Following the publication of the 17 Sustainable Development Goals (SDG) by the United Nations, many groups in textile & clothing industry put in place a process to analyze the SDGs based on coherence in regard to their own sustainability values and relevance in regard to their own activities in the short, medium, and long term.
 - This process ends with the identification and adoption of the Sustainable Development Goals to be broken down into concrete actions to be developed internally and on which to focus the Group's resources.



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Sustainable Fashion – Inspiring Cases and Initiatives

Sustainable Fashion alternatives

- Examples of alternative responses/ focusses for Sustainability
 - **Slow Fashion:** Environmentally friendly by producing fewer new items. Slow fashion means sticking with what you have for a long time, so this can get difficult to practice when your tastes change.
 - **Fair Fashion:** Ensuring fair wages supports education and directly improves worker's quality of life. If everyone had a living wage* we would see more happiness in the world = less conflict + more love & peace. But certifications can be misleading and mean different things than one might expect.
 - **Certified without pesticides:** it is better for the health and land of the farmers, and also protects wildlife. But organic cotton doesn't mean less water usage in production, the production conditions have to be checked (often working conditions are close to slavery) and it can be misleading, to make us think it is good for our skin. Organic cotton can also be dyed and treated with toxic chemicals..



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Sustainable Fashion – Inspiring Cases and Initiatives

Sustainability & materials selection

- **Using Alternative Fabrics**
 - Some of the most common textiles are also the most harmful to the environment.
 - Cotton necessitates more pesticide use than any other crop in the U.S., and polyester requires the use of over 70,000,000 barrels of oil each year.
 - Alternative textiles such as flax, hemp, and even “spider silk” are increasingly being seen as an alternative to traditional fabrics, because of their increased sustainability. Many of these textiles offer properties such as conductivity and high-tensile strength that make them ideal for use in technical applications.
- **ORGANIC COTTON**
 - Cotton is one of the most popular textiles. While in many ways cotton is a wonderful, natural fiber that is capable of biodegrading quickly once it is discarded, conventionally grown cotton unfortunately has a significant carbon footprint.
 - Organically grown cotton can become the new standard, but it's up to consumers to demand it.
- **LINEN**
 - Linen is another natural plant based fiber that will biodegrade after it is discarded making it a more eco-friendly option.
 - Linen is made using the entire flax plant and is often combined with cotton to create a fully biodegradable and soft textile. Because linen doesn't require the use of pesticides, and can be made using the entire flax plant, linen is considered to be one of the most eco-friendly textiles that is used today in the making of clothing and bedding.

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Sustainable Fashion – Inspiring Cases and Initiatives

Sustainability & materials selection

- **HEMP**
 - Hemp is a dense plant that requires no pesticides or herbicides to keep it healthy. It also is naturally resistant to pests, requires little land to grow, and uses 50% less water than cotton.
- **TENCEL**
 - TENCEL™ is one of the most progressive fibers that is being engineered today. The material for TENCEL™ comes from the eucalyptus tree, which require no harmful pesticides or insecticides to grow. Eucalyptus trees also require significantly less land, when compared to something like cotton to make a similar amount of fabric.
- **Technical Textiles Produced Using Fewer Resources**
 - Traditional textiles require a great deal of resources to grow, procure, and process.
 - **Synthetic technical textiles such as acrylic fiber** can be produced in-house requiring only common chemical compounds and specialized equipment. Additionally, these textiles can be made to exacting specifications making them ideal for small-batch or custom orders.

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Sustainable Fashion – Inspiring Cases and Initiatives

Other cases, best practices ...

Platform efforts :Vinted and Vestiaire Collective endorse a more sustainable purchasing behavior, the need for 'new' vs. second-hand items.

Cost transparency : Everlane and Nolabel who make it a priority to inform consumers about actual costs and markups, from material costs to labor and transportation.

Moja: production and distribution of sanitary pads alongside hygiene workshops in Tanzania



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Circular Fashion – Inspiring Cases and Initiatives

Circular Economy & Circular Fashion

- Circular Economy
 - “A circular economy is one that is restorative and regenerative by design, and which aims to keep products, components and materials at their highest utility and value at all times, distinguishing between technical and biological cycles.”
- Circular Fashion
 - Underpinned by a transition to renewable energy sources, the circular model builds economic, natural, and social capital. It is based on three principles:
 - Design out waste and pollution
 - Keep products and materials in use
 - Regenerate natural systems



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Sustainable Fashion – Inspiring Cases and Initiatives

Cases: Innovative Solutions for Circularity & a lower footprint

- **TENTREE**

- The future of sustainable fashion is filled with innovation and sustainable business practices thanks to companies like [tentree](#) who are actively working to change the way the fashion industry produces garments and impacts the world.
- The major changes are related to the use of sustainable fabrics & textiles, to the continuous consumer education, to the ethics in production & fair working conditions, promotion, and long-lasting of products

- **“Up cycling” of Synthetic Materials**

- Up cycling is the new recycling. Advances in extrusion technology are creating new avenues for old materials. Non-textile products such as polypropylene bags and beer bottles can now be broken into a fine particulate which is then melted and extruded into usable fibers. Processes like these create less waste and reduce the distance required for sourcing of some textile components.

- **Dyeing solutions**

- Dyeing is the most taxing to the environment of any textile-related process. Technical innovations in the way dyes are imbued into fabrics, from “air-dyes” that blast textiles with color to pre-dyed resin applications for composite textiles, reduce the carbon output of the entire process. Additionally, after-dye wastewater is finding new life through innovative processes that remove recalcitrant organic compounds and produce less “sludge.”
- **Efforts linked to the usage of recycled or organic materials** as Patagonia, Organicbasics, Adidas, Thought Clothing, Veja, Saye, Trandlands...
- **Zero waste** : Ref Jeans by Reformation, Sezane (close to zero waste as they possible can)

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Sustainable Fashion – Inspiring Cases and Initiatives

Circular Initiatives & Alliances

- The Ellen Mc Arthur foundation leads the way on circularity.
- Fashion for Good is a good illustration of innovation investments to find sustainable solutions for the industry
- Bcorp is a community of leaders of various industries, rallied to find solutions to common sustainability concerns.



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To go further....

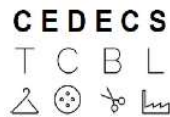
- **Good on you** – Ethical brand ratings
- **Fashion Revolution** – Educative & Industry events
- **The sustainable fashion forum**– Trends influencing sustainable fashion
- **Remake our world** – Sustainable fashion news
- **Clean Clothes Campaign** – Focus on working conditions
- **Slow Fashion Movement** – Focus on slow fashion
- **Business of Fashion** – Prime fashion platform with a larger focus on sustainable news nowadays



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